

TABLE-BASED SCHEDULER FOR FIFOs AND THE LIKE

ABSTRACT

5 A scheduler for a set of data packet storage devices (e.g., FIFOs) implements a scheduling
algorithm embodied in a look-up table (LUT) that identifies the next FIFO to select for service based on
the current status of the FIFOs. In one embodiment, in addition to a memory device used to store the
LUT, the scheduler has (1) a latch adapted to store and forward the LUT output and (2) an extractor that
implements a finite state machine that determines (1) when to enable the latch and (2) when to forward
the identification of the next FIFO to select for service to the set of FIFOs. Using a LUT enables
10 relatively complicated scheduling algorithms to be implemented for relatively large numbers of FIFOs
without significantly increasing the execution time of the scheduler.